User Manual ALFA(NET) 33
Min./Max. Alarm thermostat.

VDH doc. 053810 **Version: v1.3** **Date: 19-06-2012**
Software: ALFA(NET) 33 File: Do053810.wpd Range: -50/+50˚C, readout per 1˚C

* Function.

The **ALFA(NET) 33** is a digital alarm thermostat for panel mounting. The thermostat watches the minimum and maximum temperature. The **ALFA(NET) 33** has one relay for both alarms.
The **ALFA*NET* 33** has a RS 485 network connection so it can be read out and adjusted on the ALFANET.

* Installation.

On the topside of the **ALFA(NET) 33** you can see how the sensor, power supply and relay have to be connected.
After connecting the **ALFA(NET) 33** to the power supply,, it takes a few seconds to show the measured temperature in the display.
The alarm relay is a multi functional combined minimum- and maximum-alarm, at alarm the LED 'alarm' is lit in the display.

* Control.

The **ALFA(NET) 33** alarm thermostat can be controlled by three pushbuttons on the front;

- **SET** - view / change setpoints and reset of alarm.
- **UP** - increase a value.
- **DOWN** - decrease a value.

* Viewing setpoints.

Viewing setpoint of maximum alarm:
By pushing the **SET** key first and then the **UP** key together the maximum alarm setpoint appears in the display. The led 'set high' starts blinking.
Viewing setpoint of minimum alarm:
By pushing the **SET** key first and then the **DOWN** key together the maximum alarm setpoint appears in the display. The led 'set low' starts blinking.
A few seconds after releasing the keys the setpoint disappears and the measured temperature is shown in the display.

* Changing setpoints.

Push the **SET** key together with the **UP** or **DOWN** key and the maximum alarm setpoint or minimum alarm setpoint appears in the display. Release both keys.
Now push the **SET** key again and together with the **UP** or **DOWN** keys the setpoint can be changed.
A few seconds after releasing the keys the measured temperature shows again in the display.

* Actions of the alarm functions.

This alarm thermostat has two adjustable alarms namely, a minimum and a maximum alarm. Whereby can be chosen from watch or control alarms (Parameter 27):

- Watch Alarm: The relay is normally activated and LED 'alarm' is off. At alarm the relay is deactivated and the LED 'alarm' is lit. This is also the case at power failure.
- Control Alarm: The relay is normally deactivated and the LED 'alarm' is off. At alarm the relay is activated and the LED 'alarm' is lit.

Furthermore, an alarm can be hold or reset automatically (parameter 28).

- If alarms are hold (default), the alarms must be confirmed by pressing the **SET** button. Only when the alarm cause is solved and the alarm is confirmed, the relay is set to its normal position.
- If alarms are not hold and the alarm cause is solved, the alarm will automatically reset and the relay is set to its normal position.

Also, an offset (zone) and the differential for each alarm can be set. See the function diagram.

Furthermore, a delay time (Parameter 23 and 24) for each alarm can be set, during the delay time the led 'alarm' flashes. If after ending the delay-time the alarm is still present, an alarm is given and the relay is set into the alarm position. If the temperature is recovered within the delay time, than there will be no alarm.

In the display is continuously shown **H** at maximum alarm and **L** at minimum alarm. Once the alarms are confirmed, the measured temperature is shown again alternating with any outstanding actual alarm indications.

* Sensor adjustment.

The sensor can be adjusted by using the Sensor Offset (parameter 04). Indicates the **ALFA(NET) 33** e.g. 2˚C too much, the Sensor Offset has to de decreased by 2˚C.

* Error messages.

In the display of the **ALFA(NET) 33** the following error messages can appear:

Er - Sensor broken. Solution:
- Check if the sensor is connected correctly.
- Check the sensor (1000Ω at 25˚C).
- Replace the sensor.

EE - Settings are lost. Solution:
- Re programme the settings.

* Setting internal parameters.

Next to the adjustment of the setpoints, some internal settings are possible like differentials, sensor-offset, setpoint range and alarm settings.

By pushing the **DOWN** key more than 10 seconds, you enter the 'internal programming menu'. In the left display the upper- and lower-segment are blinking. With the **UP** and **DOWN** keys the required parameter can be selected (see the parameter table).

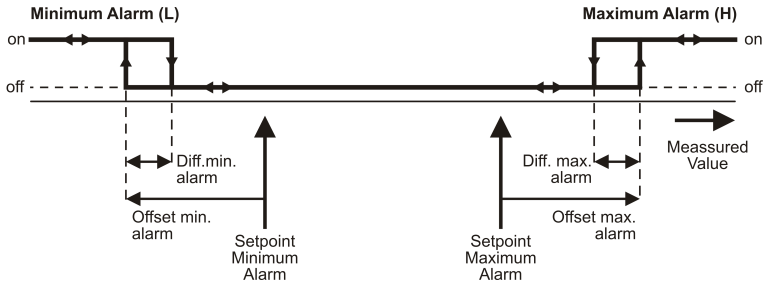
If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** or **DOWN** keys, allows you to change the value of this parameter.

If no key is pushed for 20 seconds, the **ALFA(NET) 33** changes to it's normal operation mode.

* Parameters ALFA(NET) 33.

PARA-METER	DESCRIPTION PARAMETER	RANGE	DEFAULT VALUE
02	Minimum setpoint	-50..+50˚C	-50
03	Maximum setpoint	-50..+50˚C	+50
04	Offset temperature sensor (sensor calibration)	-15..+15˚C	0
10	Startup delay after power failure	0..99 Minutes	0
11	Relay on at sensor failure	0 = No, 1 = Yes	0
21	Differential maximum alarm	1..15˚C	1
22	Differential minimum alarm	1..15˚C	1
23	Time delay maximum alarm	0..99 Minutes	0
24	Time delay minimum alarm	0..99 Minutes	0
25	Offset maximum alarm	0..+20˚C	0
26	Offset minimum alarm	-20..0˚C	0
27	Relay alarm function (0=watchdog alarm 1=regulated alarm)	0..1	0
28	Auto reset alarm after temp. recovering (0=hold alarm, 1=don't hold alarm)	0 = No, 1 = Yes	0
90	Network number (only at ALFANET)	1..250	1
95	Software version	0..255	-
96	Production year	00..99	-
97	Production week	1..52	-
98	Serial number (x1000)	0..255	-
99	Serial number (units)	0..999	-

* Function diagram.

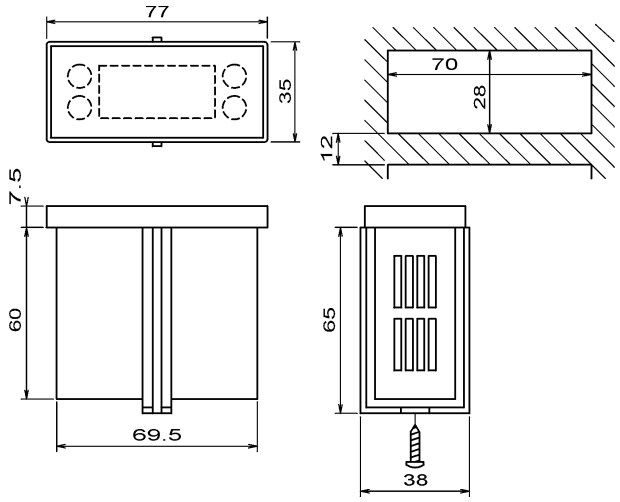


* Technical data.

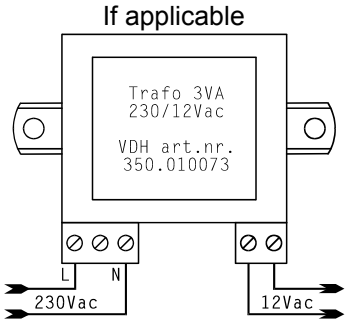
Type	: ALFA(NET) 33 alarm thermostat
Range	: -50/+50˚C, readout per 1˚C
Supply	: 230 Vac 50/60Hz 1,1VA (or else see product sticker)
Relay	: 1x SPDT contact Max. 250V/16A(C-NO), 8A(C-NC) at cos phi=1
Communication	: RS 485 Network (2x twisted-pair shielded) only at ALFANET model.
Control	: thru pushbuttons on front.
Front	: Polycarbonate IP65
Sensor	: SM 811 2-wire PTC sensor (1000Ω at 25˚C)
Dimensions	: 35 x 77 x 71,5mm (hwd)
Panel cut-out	: 28 x 70mm (hw)

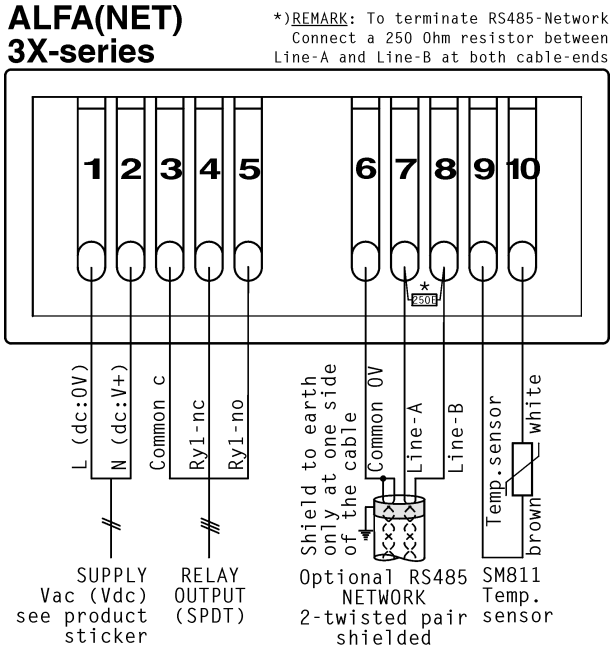
- Provided with memory protection during power failure.
- Connection with screw terminals on the backside.
- Equipped with self test function and sensor failure detection.
- Special version are available upon request.

* Dimensions.

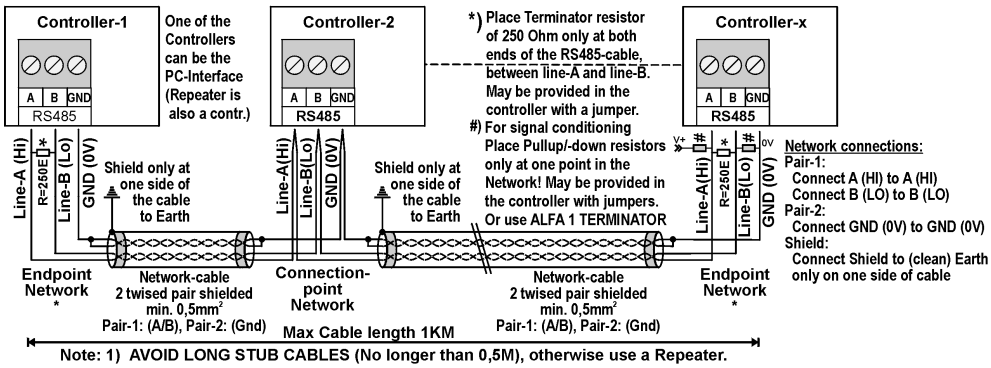


* Connection diagram.





RS 485 NETWORK CONNECTIONS 2-twisted pair shielded cable:


Controller-1
One of the Controllers can be the PC-Interface (Repeater is also a contr.)
A B GND
RS485
Controller-2
Controller-x
*) Place Terminator resistor of 250 Ohm only at both ends of the RS485-cable, between line-A and line-B. May be provided in the controller with a jumper.
#) For signal conditioning Place Pullup/-down resistors only at one point in the Network! May be provided in the controller with jumpers. Or use ALFA 1 TERMINATOR
Line-A (Hi)
R=250E
Line-B (Lo)
GND (0V)
Shield only at one side of the cable to Earth
Endpoint Network
Network-cable 2 twised pair shielded min. 0,5mm²
Pair-1: (A/B), Pair-2: (Gnd)
Connection-point Network
Max Cable length 1KM
Network connections:
Pair-1:
Connect A (HI) to A (HI)
Connect B (LO) to B (LO)
Pair-2:
Connect GND (0V) to GND (0V)
Shield:
Connect Shield to (clean) Earth only on one side of cable
Note: 1) AVOID LONG STUB CABLES (No longer than 0,5M), otherwise use a Repeater.

* Address.

VDH Products BV
Produktieweg 1
9301 ZS Roden
The Netherlands

Tel: +31 (0)50 - 30 28 900
Fax: +31 (0)50 - 30 28 980
Email: info@vdhproducts.nl
Internet: www.vdhproducts.nl